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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,125	05/10/2002	Yasuharu Asano	450101-03685	9907

20999 7590 07/19/2006

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EXAMINER

WOZNIAK, JAMES S

ART UNIT PAPER NUMBER

2626

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/019,125	Applicant(s) ASANO ET AL.	
	Examiner James S. Wozniak	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the office action from 2/22/2006, the applicant has submitted an amendment, filed 5/16/2006, amending 1-5 and 8-9, while arguing to traverse the art rejection based on the amended limitations (*Amendment, Pages 9-11*). The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection, necessitated by the claim amendments and in view of Balakrishnan (*U.S. Patent: 6,233,559*).

2. In response to the amendments to the specification and claims, the examiner has withdrawn the previous objections directed towards a non-descriptive title and minor informalities.

Information Disclosure Statement

3. The IDS submitted on 5/16/2006 has been considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1 and 7-9** are rejected under 35 U.S.C. 102(e) as being anticipated by

Balakrishnan (*U.S. Patent: 6,233,559*).

With respect to **Claims 1 and 8-9**, Balakrishnan discloses:

Extraction means for extracting characteristic values of said speech (*feature extraction, Col. 4, Lines 18-21; and Fig. 2, Element 62*), the speech comprising a plurality of words (*multi-word utterances, Col. 4, Lines 41-51*);

Selection means for selecting one or more first words from the plurality of words to be processed by speech recognition processing, based on a first measure calculated using said characteristic values, and for selecting one or more second words from the plurality of words based on a second measure different from said first measure (*comparing input speech to two different vocabularies and language models to select word candidates, wherein one or more common first words could be selected as a candidate at a first recognizer and one or more application-specific keywords from the input speech could be selected as candidate only at a second recognizer, Col. 5, Lines 55-60; Col. 6, Lines 5-27; and Col. 7, Lines 4-27*);

Score calculation means for calculating said score of said first and second words selected by said selection means (*delivering a recognition score, Col. 4, Lines 18-40; and Col. 7, Lines 4-27*); and

Finalizing means for finalizing a word string, as the recognition result of said speech, based on said score (*Col. 4, Lines 18-40*).

Balakrishnan further discloses method implementation as a program stored on a computer readable medium (*Col. 5, Lines 41-55*).

With respect to **Claim 7**, Balakrishnan discloses:

The selection means calculates said score using characteristic values of the speech to select said first word based on said score (*generating a score or confidence level based upon extracted speech features, Col. 4, Lines 18-37*).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan in view of Hon et al (*U.S. Patent: 5,963,903*).

With respect to **Claim 2**, Balakrishnan teaches the speech recognition system utilizing different types of scoring models in recognizing a speech command, as applied to claim 1.

Balakrishnan does not teach the use of a scoring means related to a specific number of phonemes satisfying a pre-set condition, however Hon teaches a means for a non-acoustic ranking and selection of phoneme recognition candidates in a word through a phoneme misrecognition count (*Col. 10, Lines 16-51*).

Balakrishnan and Hon are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Balakrishnan with the phoneme ranking and selection means taught by Hon in order to implement an accurate speech recognition system that does not require a user to speak a large number of words in training (Hon, Col. 5, Lines 15-36).

8. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan in view of Chiang et al ("On Jointly Learning the Parameters in a Character-Synchronous Integrated Speech and Language Model," 1996).

With respect to **Claim 3**, Balakrishnan teaches the speech recognition system utilizing different types of scoring models in recognizing a speech command, as applied to claim 1. Balakrishnan does not teach the use of a scoring means related to a part-of-speech, however Chiang teaches an HMM based recognizer that utilizes part-of-speech tags in scoring to determine a best recognition hypothesis (Page 168, Fig. 1).

Balakrishnan and Chiang are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Balakrishnan with the scoring means related to a part-of-speech tag as taught by Chiang in order to achieve an improved recognition rate and a reduced error rate (Chiang, Page 168).

9. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan in view of Franz et al (U.S. Patent: 6,178,401).

With respect to **Claim 4**, Balakrishnan teaches the speech recognition system utilizing different types of scoring models in recognizing a speech command, as applied to claim 1. Balakrishnan does not teach the use of a scoring means related to a linguistic likelihood, however Franz discloses the use of a language model that determines a score based on linguistics (Col. 6, Line 42- Col. 7, Line 6).

Balakrishnan and Franz are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Balakrishnan with the scoring means related to a linguistic likelihood as taught by Franz in order to provide a means for enhancing that probability of selecting a correct recognition candidate (Franz, Col. 6, Line 61- Col. 7, Line 6).

10. **Claims 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan in view of Holt et al (U.S. Patent: 5,960,447).

With respect to **Claim 5**, Balakrishnan teaches the speech recognition system utilizing different types of scoring models in recognizing a speech command, as applied to claim 1. Balakrishnan does not teach the use of a storage means for memorizing speech recognition results and using the results in a subsequent recognition, however Holt discloses a means for storing a confidence score from a recognition engine for use in a speech recognition process (Col. 9, Lines 7-61).

Balakrishnan and Holt are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art,

at the time of invention, to modify the teachings of Balakrishnan with the confidence score storage means taught by Holt in order to provide an improved means for editing and correcting speech recognition results (Holt, Col. 1, Line 65- Col. 2, Line 21).

With respect to **Claim 6**, Holt further recites:

Inputting means for providing an input for correcting the results of speech recognition; wherein said storage means stores the results of the speech recognition corrected by the input from said inputting means (editing a recognition result and updating a confidence score, Col. 9, Lines 36-61).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Higgins et al (*U.S. Patent: 5,218,668*)- teaches the use of filler templates to generate an alternate word hypothesis.

Wilson et al (*U.S. Patent: 5,386,492*)- teaches a speech recognition method utilizing different distance measures.

Jiang et al (*U.S. Patent: 6,539,353*)- teaches a method for selecting word candidates based on acoustic and language model scoring.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached at (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
6/15/2006



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